

### **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application.

#### **LISTING OF CLAIMS:**

1. (Currently Amended) A packet embodied in a tangible computer-readable medium, comprising:  
a compressed header comprising:  
a first value associated with an uncompressed header, configured for deriving ~~[[an]]~~a  
second uncompressed header for said packet based on ~~a~~said ~~second~~ uncompressed header; and  
a second value associated with a third uncompressed header, configured for deriving  
said second uncompressed header based on ~~a~~said third uncompressed header,  
where said uncompressed header, said second uncompressed header, and said third  
uncompressed header are associated with different packets arriving in any order.
2. (Original) The packet of claim 1, wherein said first value is computed based on said  
uncompressed header and said second uncompressed header.
3. (Original) The packet of claim 1, wherein said first value corresponds to a difference  
between: a value representative of a portion of said uncompressed header, and a value representative  
of a corresponding portion of said second uncompressed header.
4. (Currently Amended) The packet of claim 1, wherein said second value is computed based  
on said second uncompressed header and said third uncompressed header.
5. (Currently Amended) The packet of claim 1, wherein said second value corresponds to a  
difference between: a value representative of a portion of said second uncompressed header, and a  
value representative of a corresponding portion of said third uncompressed header.

6. (Original) The packet of claim 1, wherein said first value and said second value are encoded by at least one of: a variable-length code and a sign-based code.
7. (Original) The packet of claim 1, wherein said uncompressed header, said second uncompressed header, and said third uncompressed header include at least one of: an Internet Protocol header, a Transmission Control Protocol header, a User Datagram Protocol header, and a Real-Time Protocol header.
8. (Original) The packet of claim 1, wherein said compressed header further comprises:  
at least one of: a destination address, a packet sequence number, and a packet stream identifier number.
9. (Currently Amended) The packet of claim 1, wherein said compressed header further comprises:  
at least one other value distinct from said first and second values, said at least one other value for deriving said second uncompressed header based on at least one other uncompressed header distinct from said ~~second~~uncompressed header and said third uncompressed header[[s]].
10. (Previously Presented) The packet of claim 1, wherein said packets associated with said second and third uncompressed headers are consecutive headers from a packet stream.
11. (Currently Amended) A method of communicating data, the method comprising:  
maintaining, at a first network node, at least an uncompressed header;  
transmitting, from said first network node, a packet comprising:  
a first value for deriving said uncompressed header based on a second uncompressed header; and  
a second value for deriving said uncompressed header based on a third uncompressed header;

receiving said packet at a second network node;  
maintaining said packet at said second network node until at least one of said second uncompressed header and said third uncompressed header are made available; ~~and~~  
deriving said uncompressed header at said second network node based on said at least one of said second uncompressed header and said third uncompressed header; and  
maintaining a history of the most recently uncompressed packet headers at said second network node.

12. (Original) The method of claim 11, wherein said packet traverses a connection from said first node to said second node that includes no intervening nodes.

13. (Original) The method of claim 11, wherein said packet traverses a connection from said first node to said second node that includes at least one intervening node.

14. (Original) The method of claim 11, further comprising:  
obtaining said first value by computing a difference between: a value representative of a portion of said uncompressed header, and a value representative of a corresponding portion of said second uncompressed header.

15. (Original) The method of claim 11, further comprising:  
obtaining said second value by computing a difference between: a value representative of a portion of said uncompressed header, and a value representative of a corresponding portion of said third uncompressed header.

16. (Original) The method of claim 11, further comprising:  
obtaining at least one other value distinct from said first and second values, said at least one other value for deriving said uncompressed header based on at least one other uncompressed header distinct from said second and third uncompressed headers.

17. (Original) The method of claim 11, wherein deriving said uncompressed header at said second node comprises:

if said second uncompressed header is maintained at said second node, deriving said uncompressed header by summing said second uncompressed header and said first value; and

if said third uncompressed header is maintained at said second node, deriving said uncompressed header by summing said third uncompressed header and said second value.

18. (Previously Presented) A method of communicating data, the method comprising:

storing a plurality of transmitted packet headers;

providing an uncompressed header to be transmitted;

forming a plurality of values by computing, for each of at least two transmitted in said plurality of transmitted headers, a corresponding value for deriving said uncompressed header; and

transmitting a packet comprising said plurality of values, wherein said packet is received out of order of at least one of said plurality of transmitted headers.

19. (Original) The method of claim 18, wherein a predetermined number of transmitted packet headers are stored.

20. (Original) The method of claim 18, further comprising:

replacing one packet header in said plurality of transmitted packet headers with said uncompressed header.

21. (Original) The method of claim 18, further comprising:

including said uncompressed header in said plurality of transmitted packet headers.

22. (Currently Amended) A method of communicating data, the method comprising:

storing a plurality of packet headers;

receiving a packet comprising a plurality of values corresponding to said plurality of packet headers, each of said plurality of values for deriving an uncompressed header;

maintaining said packet until at least one of said plurality of packet headers is made available;~~and~~

deriving said uncompressed header based on one of said plurality of values and a corresponding one header in said plurality of packet headers; and

maintaining a history of the most recently uncompressed packet headers.

23. (Original) The method of claim 22, wherein a predetermined number of packet headers are stored.

24. (Original) The method of claim 22, further comprising:  
replacing one of said plurality of packet headers with said uncompressed header.

25. (Original) The method of claim 22, further comprising:  
including said uncompressed header in said plurality of packet headers.

26. (Previously Presented) A computer program product embodied on a computer-readable medium for communicating data, the computer program product comprising:

instructions for causing a processor to:

store a plurality of transmitted packet headers;

provide an uncompressed header to be transmitted;

form a plurality of values by computing, for at least two transmitted headers in said plurality of transmitted headers, a corresponding value for deriving said uncompressed header based on a corresponding one of said at least two transmitted headers; and

transmit a packet comprising said plurality of values, wherein said computer program product is configured to receive said packet out of order of at least one of said plurality of transmitted headers.

27. (Currently Amended) A computer program product embodied on a computer-readable medium for communicating data, the computer program product comprising:

- instructions for causing a processor to:
- store a plurality of packet headers;
- receive a packet comprising a plurality of values corresponding to said plurality of packet headers, each of said plurality of values for deriving an uncompressed header;
- maintain said packet until at least one of said plurality of packets headers is made available;

~~and~~

- derive said uncompressed header based on one of said plurality of values and a corresponding one header in said plurality of packet headers; and
- maintain a history of the most recently uncompressed packet headers.

28. (Cancelled)

29. (Currently Amended) The method of claim 1128, wherein said history contains a subset of the most recently uncompressed packet headers.

30. (Previously Presented) The method of claim 29, wherein said packet includes a first sequence number, said second uncompressed header includes a second sequence number, said third uncompressed header includes a third sequence number, and the availability of at least one of said second uncompressed header and said third uncompressed header in said history for said packet is determined based on said sequence numbers.

31. (Currently Amended) The method of claim 1128, wherein maintaining said packet at said second network node until at least one of said second uncompressed header and said third uncompressed header are made available further comprises:

- receiving a second packet at said second network node, said second packet comprising:

a third value for deriving said second uncompressed header based on a fourth uncompressed header; and

a fourth value for deriving said second uncompressed header based on a fifth uncompressed header;

maintaining said second packet at said second network node until at least one of said fourth uncompressed header and said fifth uncompressed header are made available; and

deriving said second uncompressed header at said second network node based on at least one of said fourth uncompressed header and said fifth uncompressed header.

32. (New) The method of claim 22, wherein said history contains a subset of the most recently uncompressed packet header.

33. (New) The computer program product of claim 27, wherein said history contains a subset of the most recently uncompressed packet header.

34. (New) The computer program product of claim 33, wherein said packet includes a first sequence number, said second uncompressed header includes a second sequence number, said third uncompressed header includes a third sequence number, and the availability of at least one of said second uncompressed header and said third uncompressed header in said history for said packet is determined based on said sequence numbers.

35. (New) The packet of claim 1, wherein said packet includes a first sequence number, said second uncompressed header includes a second sequence number, said third uncompressed header includes a third sequence number, and the availability of at least one of said second uncompressed header and said third uncompressed header in said history for said packet is determined based on said sequence numbers.